Summary of Fishery Survey
Horseshoe Lake, Taylor County, 2015

WDNR's Fisheries Management Team from Park Falls completed an electrofishing survey in spring 2015 to assess the abundance and size structure of largemouth bass and bluegill populations in Horseshoe Lake. This survey also yielded some useful information on black crappies. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society. The designation of "Keeper size" is based on known angler behavior.

Survey Effort

On May 28, 2015, with water temperature at 73.6°F, our survey was well-timed to represent the target populations during the tail end of their spawning activities. We sampled all fish species in a complete shoreline circuit (0.81 miles) in 0.45 hours.

Habitat Characteristics

Horseshoe Lake is a 15-acre drainage lake located about 8 miles north of Medford, WI. The dark-stained water (Secchi depth = 4 feet) has a maximum depth of 23 feet and an average depth of 12 feet. The substrate is 80% gravel, 10% sand, and 10% muck, supporting moderately dense vegetation at shallow depths. The shoreland is 80% upland forest and 20% tamarack bog. A small channel drains from McNamar Lake, through Horseshoe Lake and Clarke Lake, to the Mondeaux River. A public boat ramp is located on the north side of the lake off Horseshoe Lake Road.

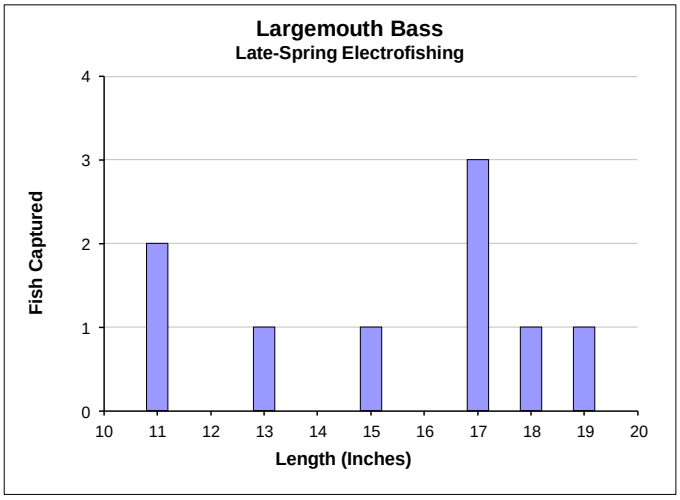
Summary of Results

We captured seven fish species with largemouth bass being the dominant predator and bluegills the most abundant panfish. We also captured black crappies, pumpkinseed, and yellow perch in lower abundance. The fish community in Horseshoe Lake appears to be well balanced.

Largemouth Bass

Late Spring Electrofishing

Captured 11 per mile or 20 per hour ≥ 8"	
Quality Size ≥ 12"	78%
Legal Size ≥ 14"	67%
Preferred Size ≥ 15"	67%

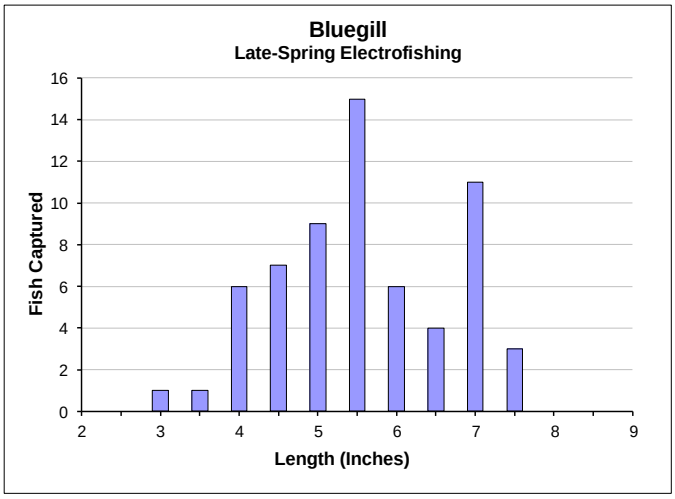


Horseshoe Lake's largemouth bass population appears to be in good shape. Our capture rate of 11 bass per mile is indicative of low to moderate population abundance, which is appropriate for a lake this size. With little competition for available forage and space, bass can grow longer than 18 inches here. Their size structure is difficult to assess from our small sample, but it appears to be very good; 67% of the nine bass captured were legal size.

Bluegill

Late Spring Electrofishing

Captured 78 per mile or 140 per hour ≥ 3"	
Quality Size ≥ 6"	38%
Keeper Size ≥ 7"	22%
Preferred Size ≥ 8"	0%

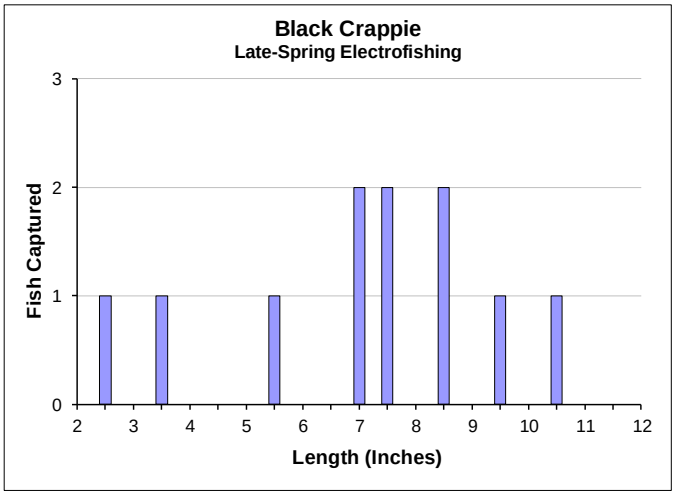


Our electrofishing capture rate of bluegills indicates a moderately low abundance in Horseshoe Lake. Their size structure was fair with 22% of bluegills 3 inches or greater reaching "keeper size" (7 inches or greater). Our electrofishing survey may have occurred after the peak spawn when the biggest bluegills would have been near shore and vulnerable to our gear. Predatory control by largemouth bass appears to be sufficient to control bluegill abundance. Although we did not take scales or bony parts to estimate age, we suspect that growth is satisfactory and likely near the statewide average rate.

Black Crappie

Late- Spring Electrofishing

Captured 11 per mile or 20 per hour ≥ 5"	
Quality Size ≥ 8"	44%
Preferred Size ≥ 10"	11%
Memorable Size ≥ 12"	0%



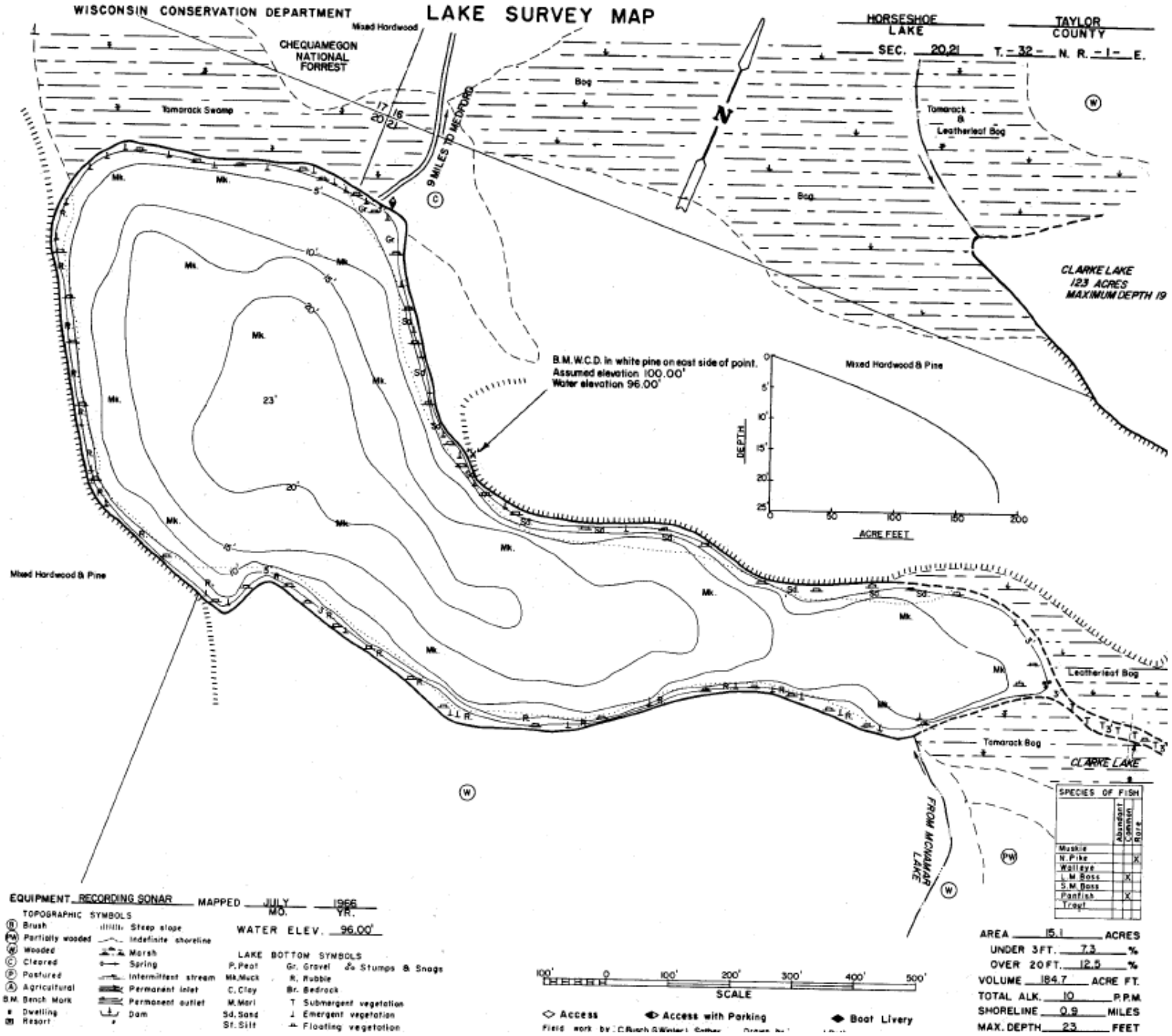
Although black crappies were not the main target of this survey, we did capture them at a rate of 11 per mile. With a small sample size, presumably because this survey occurred after crappies spawned and dispersed, it is difficult to evaluate population abundance and size structure. What we can say from this survey is that the population appears to be healthy with several size and age classes represented. Further sampling would need to be done either by fall or spring fyke nets to accurately assess the crappie population in Horseshoe Lake.

Survey data collected and analyzed by: Evan Sniadajewski, Jeannette Wendler, and Jeff Scheirer—WDNR Fishery Team, Park Falls.

Written by: Chad Leanna, LTE Fisheries Technician, December 17, 2015

Reviewed and edited by: Jeff Scheirer, Fishery Biologist and Max Wolter, acting Hayward Field Unit Supervisor, December 21, 2015

Approved for web posting by: Mike Vogelsang, Northern Administrative District Supervisor, December 21, 2015


WISCONSIN CONSERVATION DEPARTMENT
LAKE SURVEY MAP
HORSESHOE LAKE
TAYLOR COUNTY
SEC. 20,21 T. - 32 - N. R. - 1 - E.
CHEQUAMEGON NATIONAL FORREST
Mixed Hardwood
Tamarack Swamp
9 MILES TO MEDFORD
Bog
Tamarack & Leatherleaf Bog
CLARKE LAKE
123 ACRES
MAXIMUM DEPTH 19
B.M. W.C.D. in white pine on east side of point.
Assumed elevation 100.00'
Water elevation 96.00'
Mixed Hardwood & Pine
DEPTH
ACRE FEET
Mixed Hardwood & Pine
Leatherleaf Bog
Tamarack Bog
CLARKE LAKE
FROM MONAHAN LAKE
SPECIES OF FISH
Abundant
Common
Rare
Muskie
N. Pike
Walleye
L. M. Bass
S. M. Bass
Panfish
Trout
EQUIPMENT RECORDING SONAR MAPPED JULY MO. 1966 YR.
WATER ELEV. 96.00'
TOPOGRAPHIC SYMBOLS
Brush
Partially wooded
Wooded
Cleared
Pastured
Agricultural
B.M. Bench Mark
Dwelling
Resort
Steep slope
Indefinite shoreline
Marsh
Spring
Intermittent stream
Permanent inlet
Permanent outlet
Dam
LAKE BOTTOM SYMBOLS
P. Peat
Mk. Muck
C. Clay
M. Marl
Sd. Sand
Sf. Silt
Gr. Gravel
R. Rubble
Br. Bedrock
Stumps & Snags
T Submergent vegetation
Emergent vegetation
Floating vegetation
SCALE
Access
Access with Parking
Boat Livery
AREA 15.1 ACRES
UNDER 3FT. 7.3 %
OVER 20FT. 12.5 %
VOLUME 184.7 ACRE FT.
TOTAL ALK. 10 P.P.M.
SHORELINE 0.9 MILES
MAX. DEPTH 23 FEET